

VALIDATING BOTANICAL NAMES BY REFERENCE TO PRE-1753 LITERATURE

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IN THE PAST, botanical names were considered validly published when they were accompanied by a reference to previously and effectively published literature. In many cases such literature was published before 1753. Furtado (Gard. Bull. Str. Settlm. 10: 170-71. 1939) has suggested that this method is wrong, and that such publication does not validate the names. This view appears to be contradictory to the existing practice and it seems necessary to discuss the subject with a view to clarifying this point.

Furtado's views summarised by himself are as follows (*l. c.*):—

"iv. No *Botanical Name* can be admitted as *valid* unless (1) it satisfies the conditions laid down as essential for the word or words constituting the name itself, and (2) it is accompanied by either (a) a valid description, or (b) a valid reference (*see below v*) . . .

"v. A REFERENCE is *valid* when it refers to a description published both in valid literature, and in accordance with the rules laid down as essential for the words constituting the description.

"vi. Consequently ALL REFERENCES TO INVALID LITERATURE, even when they include plates, should be *inadmissible* under the Rules.

"vii. SEVERAL NAMES (formerly ignored but recently resurrected and made the bases of many nomenclatural changes) whose sole claim for validity is that they were referred to a plate or description in invalid literature should be *invalid*: e.g.

"(1) In O. STICKMAN's Dissertation on RUMPHIUS's *Herbarium Amboinense* eds. 1754 and 1759, accepted as valid by Dr. E. D. MERRILL (*Interpr. RUMPH. Herb. Amboin.* 1917).

"(2) In BURMANN's *Index* to RUMPHIUS's *Herbarium Amboinense* eds. 1755 and 1769, accepted as valid by Dr. MERRILL (*cf. op. cit.*).

"(3) In ROXBURGH's *Hortus Bengalensis* (1814), accepted as valid by the late Dr. C. B. ROBINSON (*Philipp. Journ. Sci.* VII, 1912, pp. 411-419) because ROXBURGH had referred under the names to plates in RUMPHIUS's *Herb. Amb.*

"(4) In MOON's *Catalogue of Indigenous and Exotic Plants of Ceylon* (1824) accepted as valid by Mr. A. H. G. ALSTON (*Ann. Roy. Bot. Gard. Peradeniya* XI, 1929 pp. 203-205) because they contain references to the plates or descriptions either in RHEEDE's *Hortus Malabaricus* or in RUMPHIUS's *Herbarium Amboinense*.

"(5) Several generic and specific names listed in nomenclators and *Index Kewensis* with references to invalid descriptions, whether or not published in valid publications."

It should be noted that Furtado has introduced a few unfamiliar terms in the above summary such as "valid and invalid literature," "invalid description," etc. By "invalid literature" Furtado means all botanical literature published before 1753. This is evident from his statement (*l. c.* 165), "*Epipogium* and *Pterocarpus* are said to have been validated

by a reference to pre-1753 literature; but Art. 20 invalidates this literature." It should be pointed out that Art. 20 reads as follows: "Legitimate botanical nomenclature begins for the different groups of plants at the following dates (a) *Phanerogamae* and *Pteridophyta*, 1753 (Linnaeus, *Species Plantarum* ed. 1)." This article essentially refers to botanical nomenclature and *not* to botanical literature. The suggestion to describe all botanical literature published before 1753 as "invalid" appears to be due to a misinterpretation of Art. 20. Botanical literature containing descriptions or plates of plants is effectively published when it is printed and distributed to botanical institutions. So far as the descriptions and plates are concerned they should be regarded as validly published irrespective of the year 1753. But the validity of binomial names used in these publications will be considered only from 1753.

Unless this interpretation is accepted we have to reject a large number of names from Linnaeus's *Species Plantarum*. For example, the name *Plumbago zeylanica* L., is published in *Species Plantarum* 151 (1753), with references to *Hortus Cliffortianus* 53 (1737), *Hortus Upsaliensis* 43 (1748), *Flora Zeylanica* 73 (1747), etc. The only description available in the *Species Plantarum* is "foliis petiolatis," which is an exact repetition of what is available in *Hortus Cliffortianus*. It is evident that the two words constituting the description are indeed insufficient and an adequate idea of the plant can only be obtained by reference to other effectively published descriptions in earlier literature. In a large measure, therefore, Linnaeus validated the name *Plumbago zeylanica* L. by reference to pre-1753 literature. Similar examples are also available from other names like *Jasminum officinale* L., *Justicia echioides* L., *Nyctanthes Sambac* L. and *Salvia pinnata* L. In the case of *Plumbago zeylanica* L., the repetition of the two words from *Hortus Cliffortianus* conveyed no additional information, as the reference itself was enough. What Linnaeus did, in this case, was to publish a binomial and validate it by reference to a previously and effectively published description in pre-1753 literature. This implication should be clearly understood.

In the above cases Linnaeus had actual specimens as well as previously published descriptions of these plants. There are, however, quite a number of cases where binomials were published and validated by Linnaeus solely on the basis of descriptions or plates in pre-1753 literature. Svenson's interesting paper on the descriptive method of Linnaeus (*Rhodora* 47: 278. 1945) shows that a large number of species described in his *Species Plantarum* were based on "Figures such as those of Plukenet and of Cornut's *Canadensium Plantarum Historia* 1635, and Sloane's *History of Jamaica*, of which Linnaeus had seen no herbarium specimens." A random examination of one hundred specific names from Linnaeus's *Species Plantarum* shows that about fifteen of these were based solely on such descriptions or plates in pre-1753 literature, and no herbarium specimens of these species are to be found in the Linnaean Herbarium. This very rough estimate may give some idea of the total number of species described by Linnaeus on this principle. The name *Cyclamen indicum* L. may serve

as an example in this connection. The name was validated in the *Species Plantarum* by a reference to *Flora Zeylanica* 401, 1747, which was based on two drawings by Hermann (Zeyl. 50–57). It is almost certain that Linnaeus did not see any specimen of this species and no specimen is available in the Linnaean Herbarium. It may be pointed out, in passing, that as a result, the correct identity of this plant is still very obscure.* Even if some of these names are still, and probably will always remain obscure, because they were based on such pre-1753 literature, that is no reason for rejecting this type of publication. The existing rules of nomenclature do not prevent others from following the practice initiated by Linnaeus. The first author on East Asiatic Botany who followed this principle and validated a binomial by reference to pre-1753 literature appears to have been Prain. He published the name *Sindora galedupa* Prain (Jour. As. Soc. Beng. 66: 483. 1897) by reference to Rhumphius's *Herb. Amboinense* (2: 59, tab. 13. 1750). Furtado appears to have missed Prain's name in his list of Robinson, Merrill and Alston (*l. c.*).

From a consideration of these cases it will be understood that this practice of validating names by reference to pre-1753 literature is indeed an old one, starting in fact in 1753 with *Species Plantarum* itself. These names cannot be regarded as invalid, as argued by Furtado. The fallacy in Furtado's discussions lies in his assumption of all pre-1753 literature as "invalid literature." It appears to me that he has also failed to interpret correctly Articles 20, 36 and 37 of the rules of botanical nomenclature. Further, he has unfortunately confused the two phrases "effective publication" and "valid publication," and in all probability considered them as synonymous. It is admitted that "valid publication" of botanical names started from 1753, but the "effective publication" of botanical literature started much earlier, perhaps with the art of printing. A proper and logical interpretation of the rules would only lead us to accept these works (botanical literature) as effectively published. It is unfortunate that by misinterpreting the rules, Furtado has coined such terms as "invalid literature" and "invalid description."† In my opinion, this practice of validating new binomials by reference to pre-1753 literature is perfectly legitimate and in accordance with the existing rules. Such names are therefore to be regarded as valid names.

This subject was discussed at the Symposium of botanical nomenclature held at Utrecht (June, 1948) and there was general agreement to the view expressed by the writer in this paper.

* In *Pflanzenreich* — Primulaceae 4, 237: 248. 1905, Pax and Knuth wrongly considered *Cyclamen indicum* L. as a synonym of *Cyclamen persicum* Mill. Bailey, apparently following Pax and Knuth, has adopted *Cyclamen indicum* L. as the valid name of the commonly cultivated *Cyclamen* on grounds of priority (*Hortus Second* 227, 1941). From the original description of *Cyclamen indicum* L. it is evident that the plant is very different from *Cyclamen persicum* Mill., and the difference is so pronounced that *Cyclamen indicum* L. may ultimately prove not to be a *Cyclamen* at all.

† In *Gard. Bull. Str. Settlm.* 11: 1. 1939, Furtado has introduced such other unfamiliar terms as "priorable" and "impriorable" names, "typonymous formal homonyms" (*l. c.* 27), etc.!!

A few individual members also suggested that the practice referred to above, although perfectly legitimate, should be discouraged in future. There are two grounds for abandoning this practice, viz. (i) our present conception of a species has greatly changed from that of Linnaeus and other earlier authors. By supplying a binomial and referring to a description in pre-1753 literature, we indirectly admit that our conception of the species is the same as that of these early authors; (ii) the main object of publication is to clarify and amplify existing knowledge. The description of a plant should present a clearer idea of the species than could be had by reference to some of these early works. Furthermore, these works are becoming very rare; hence many herbariums do not have them. It is therefore desirable to give a description to validate new binomials. On these two considerations, I suggest the following recommendation to Art. 36:—

From 1950 onward, botanists are recommended to discontinue the practice of validating new binomials solely by reference to descriptions or plates in pre-1753 literature. This modification shall not affect binomials which are already published and validated by such reference.

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